

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

~~The Method of Multiple Concurrent Simultaneous Tasks Support Within a Single or Multiple Web Consoles Window of CCDSVM~~

1. (Currently Amended) A method for supporting multiple simultaneous concurrent tasks within a single web-console in a central controlled distributed scalable virtual machine ("CCDSMV") environment (Fig. 2) comprises the steps of, said method comprising:

- (a) a user logging in User login from a web-console of a console host [[into]] to said CCDSMV environment[[.]];
- (b) said user [[User]] from said web-console of said console host obtains obtaining all information of the target systems within said CCDSVM environment;[[.]]
- (c) said user [[User]] from said web-console of said console host selects selecting a target system and initiate initiating tasks based on said all information of said CCDSVM environment;[[.]]
- (d) Console console supporting software on a control management station gets and stores getting and storing tasks into a user space task list, and also obtains the obtaining associated locks for each task[[s.]]; and
- (e) Console console supporting software arranges tasks to be run on the target systems until the tasks got finished distributing multiple tasks to multiple systems until all of said tasks are performed.

~~— User login to CCDSVM environment~~

2. (Currently Amended) The method of claim 1, wherein step (a) further includes:

[[The]] said web-console of said console host [[gets]] getting a login web-page from said console supporting software of said control management station[[.]];

[[The]] said user ~~provides~~ providing an account name and a password information to said login web-page on said web-console of said console host[[.]]; and

[[The]] said web-console of said console host ~~sends~~ sending the authentication information to said console supporting software of said control management station.

3. (Currently Amended) The method of claim 1, wherein step (a) further includes[[The]] said console supporting software of said control management station ~~preforming~~ performs [[the]] an authentication validation checking, wherein said authentication validation checking further includes determining whether a ~~to determine if this~~ user is allowed to login.

4. (Currently Amended) The method of claim 1, wherein, step (a) further includes [[The]] multiple users logging in said console host through multiple ~~could login from~~ web-consoles of multiple different console hosts concurrently.

~~Get necessary CCDSVM information for task initiation~~

5. (Currently Amended) The method of claim 1, wherein, step (b) further includes:

[[The]] said console supporting software of said control management station receiving ~~gets necessary~~ information from service software modules of all system units via communication link between them; and

[[The]] said console supporting software of said control management station ~~sends~~ sending information of all said system units, said control management station and others to [[the]] said web-console of said console host.

6. (Currently Amended) The method of claim 1, wherein, step (b) further includes[[: The]] obtaining information relating to ~~obtained by each user could be~~ the IP address of each unit[[s]] within said CCDSVM, and initiating ~~could be a devices on a system such disk or network card or could be a file and all others, which are necessary to allow any users to~~ initiate tasks in said CCDSVM environment in response to said information.

~~—Initiate Tasks~~

7. (Currently Amended) The method of claim 1, wherein, step (c) ~~and claim 5~~ further includes:

~~initiating~~ ~~Based on information obtained from said console support software of said control management station,~~ multiple simultaneous concurrent tasks for a target system or for several different target systems ~~could be initiated~~ from a single web-console of a console host in response to information obtained by said console support software; and [[.]]

~~The target system could be any of system units or control management station.~~

sending ~~[[The]]~~ task information ~~is send~~ from said web-console of console host to said console support software modules of said control management station.

8. (Currently Amended) The method of claims 1, wherein, step (c) ~~and claim 5~~ further includes:

~~[[Based]]~~ based on information obtained from said console support software of said control management station, multiple users on multiple console hosts, each of them from a single web-console of multiple console hosts, ~~initiating can initiate~~ multiple simultaneous concurrent tasks for a target system or for several target systems~~[[.]]~~;

~~[[The]]~~ the target system ~~[[could]]~~ being any of system units or a control management station~~[[.]]~~; and

~~[[The]]~~ task information is send from said web-console of console host to said console support software modules of said control management station.

~~—User space task list and the associated locks used for multiple simultaneous concurrent tasks support in CCDSVM:~~

9. (Currently Amended) The method of claim 1, wherein, step (d) further includes:

[[The]] said console supporting software of said control management station getting [[gets]] task information from said web-console of said console hosts[[.]];

[[The]] said console supporting software of control management station ~~stores~~ storing information of each task[[s one]] at a giving time into a valid slot ~~in its~~ of a user space task list[[.]];

[[The]] said console supporting software of control management station acquires acquiring associated locks to protect [[the]] resources used by each task[[s]] and further to prevent each task[[s]] from interfering each other or from blocking each other.

10. (Currently Amended) The method of claim 1, wherein, step (d) further includes:

[[The]] said locks acquired for each task[[s could]] being conventional or non-conventional lock[[. The]]

said conventional lock [[can be]] acquired and released by same thread[[.]]; and

[[The]] said non-conventional lock [[can be]] acquired by a first thread and one ~~thread or process and be released by a second thread another thread or process.~~

~~—Run Tasks in CCDSVM environment:~~

11. (Currently Amended) The method of claim 1, wherein step (e) further includes[[[: B]] based on task information, [[the]] said console support software of said control management station ~~determines~~ determining which target system is selected to perform the task ~~to be executed on.~~

12. (Currently Amended) The method of claim 1, wherein[[[,]] step (e) further includes transmitting task information from said : ~~If the target of a task is for a system unit, the console support software of control management system transmits the task information to the service software module of the target system units. Otherwise, the task will carried out on control management station.~~

13. (Currently Amended) The method of claim 1, wherein[[[,]] step (e) further includes[[[:

The]] said console support software of said control management station or the service software module of system unit determining whether needs to determine if an additional threads ~~needs to be created~~ is required to carry out the tasks. ~~If there is needs, an additional thread is created to carry out the task. Otherwise, the threads of the console support software modules of control management station, or the threads of service software modules of system unit carries out the task.~~

14. (Currently Amended) The method of claim 1, wherein, step (e) further includes[[:
The]] said console supporting software determining whether needs to determine if a task is permitted to run on a system identified by said a specific user, who initiated this task.
~~The console supporting software also needs to determine if a task is permitted to run on a specific target system by a user, who initiated this task.~~

15. (Currently Amended) The method of claim 1, wherein, step (d) and step (e) also includes ~~each tasks'~~ said associated locks [[will]] being released one at a time along with each ~~tasks'~~ task's executing up to [[the]] a point that task is done. ~~Therefore each tasks can be executed properly without anytime delay.~~

16-27. (Cancelled).

User Credential Checking:

28. (Currently Amended) A central controlled distributed scalable virtual machine ("CCDSMV") comprising: ~~The claim 1, wherein step (a) together with the claim 14 further evidenced~~

a central control management station capable of distributing multiple tasks to multiple systems substantially the same time;

system units coupled to said central control management station;

console hosts coupled to said system units;

a network infrastructure coupled to said console hosts; and

a) — a ~~[[said]]~~ two level security authentication scheme used in said CCDSVM environment~~[[.b) The]]~~, wherein a first level of security authentication is configured to impose~~[[d]]~~ on said central control management station~~[[.c)The]]~~, wherein a second level of security authentication is configured to impose~~[[d]]~~ on said system units.

29. (Currently Amended) The claim of 28, ~~further includes:~~

a) — ~~The~~ wherein said first level of security authentication includes the login authentication having ~~such as user and password checking and allocating a portion of computing resource to said user the authentication of specific users to perform specific tasks on the control management station. For example to allow a user to own certain size of storage volumes on a target system and allow user to exercise all storage operations on their own storage volumes etc.;~~

b) — ~~The~~ wherein said second level of authentication includes an allocation a the authentication of specific user to access specific number of said system units to said user, and to perform for performing specific tasks on permitted said system units in said CCDSVM environment~~[[.]]~~; and

e) — ~~The~~ wherein said second level of authentication also includes the authentication of specific services of the specific system unit, which provides web services ~~could be provided to specific clients.~~

The Type of Tasks Supported in Web Console of CCDSVM Environment:

30. (Currently Amended) The claim of 1 +8, ~~wherein, item a) further includes that the multiple simultaneous concurrent tasks issued from a web console by a user could be any of the follow comprising:~~

a) moving data ~~Move or transmit data such as a multiple Gig bytes data file or other data in any form from any point or any system to another point or system within said~~ CCDSVM~~[[.]]~~;

b) configuring ~~Configure, partition, and assign entire said storage system (raid/disk) within said~~ CCDSVM~~[[.]]~~;

- c) authenticating said ~~Setup authentication of specific user from a specific web-console with certain privilege for [[entire]]~~ said CCDSVM ~~or for one or several systems, which could be any system unit or control management station. Setup authentication for services of CCDSVM to provide to clients.;~~
- d) monitoring and displaying a ~~Monitor and display network, storage, CPU, processes and threads activities and status for [[entire]]~~ said CCDSVM~~[[.]]; and~~
- e) creating a ~~Create and mount file system, file and directory structures, and performing all related data file operations on either~~ said control management system or said system units.
- f) ~~And all other kind of system tasks such as read permitted documentation files etc.~~

31-36. (Cancelled).

37. (New) A method for supporting multiple simultaneous concurrent tasks within a single web-console comprises:

providing a group of computer systems having at least one control system, and one or more server systems connected together through a network media, wherein said group of computer systems are controlled, operated, and managed by said control system with a set of software modules running on either a control system or on server systems in said group of systems;

providing multiple users login concurrently each from web-browser of client system into said control system;

providing said users from a single web-browser on a client system to obtain information relating to system configuration and resources of control system;

providing said user from a single web-browser of client systems to select said target systems, which is either a said control system or server systems, and to initiate multiple simultaneous concurrent tasks over the said configuration and resources information on selected target systems;

providing said web console supporting software on control management station gets and stores tasks from each users on client systems into an user space task list, and also obtains the associated locks for each tasks; and
executing tasks arranged by said console supporting software on target systems.